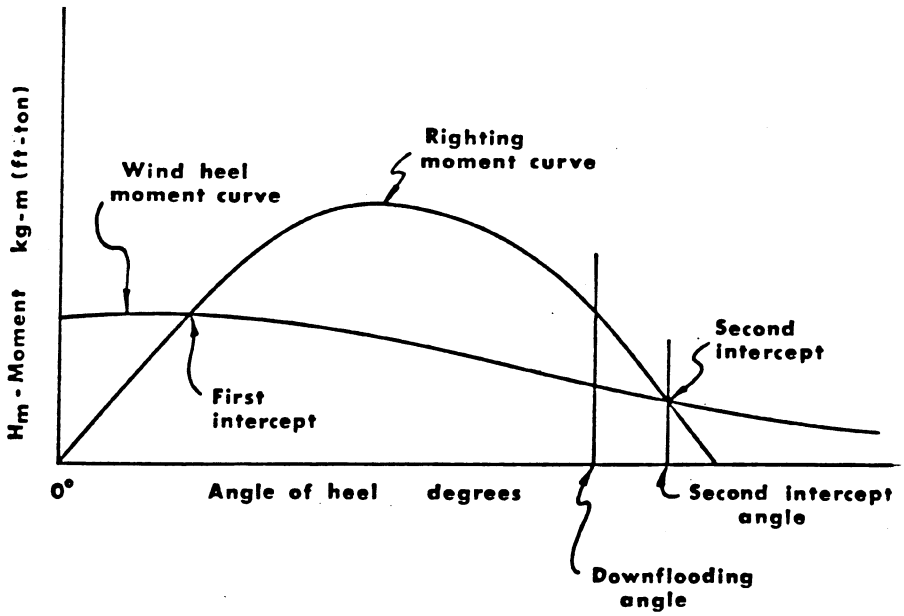
GRAPH 174.045

Intact Stability Curves for a Given Normal Operating or Severe Storm Mode



[CGD 79–023, 48 FR 51048, Nov. 4, 1983, as amended by CGD 83–071, 52 FR 6979, Mar. 6, 1987]

§ 174.050 Stability on bottom.

Each bottom bearing unit must be designed so that, while supported on the sea bottom with footings or a mat, it continually exerts a downward force on each footing or the mat when subjected to the forces of wave and current and to wind blowing at the velocities described in § 174.055(b)(3).

§ 174.055 Calculation of wind heeling moment (Hm).

(a) The wind heeling moment (Hm) of a unit in a given normal operating condition or severe storm condition is the sum of the individual wind heeling moments (H) calculated for each of the exposed surfaces on the unit; *i.e.*, $Hm=\Sigma H$.

(b) Each wind heeling moment (H) must be calculated using the equation:

$$H=k(v)^2(Ch)(Cs)(A)(h)$$

where—

(1) H=wind heeling moment for an exposed surface on the unit in foot-pounds (kilogram-meters);

(2) $k=0.00338$ lb./(ft.^{2}-knots^2) (0.0623 (kg-sec^2)/m^4);

(3) v=wind velocity of—

(i) 70 knots (36 meters per second) for normal operating conditions.

(ii) 100 knots (51.5 meters per second) for severe storm conditions.

(iii) 50 knots (25.8 meters per second) for damage conditions.